



## Guide to Energy Efficient Lighting

How your business can save money by saving energy

Energy efficient lighting makes economic, as well as environmental sense. Lighting accounts for around half of all the electricity consumed in typical U.S. commercial buildings. In addition, electricity accounts for over 80% of the total annual cost of a lighting system. By increasing the efficiency of your lighting, large savings are possible, and that is good news as energy prices continue to rise.

### *Did you know...*

The improved light and color output associated with energy efficient lighting reduces eye strain and creates a healthier and more productive work environment.



### What is energy efficient lighting?

Energy efficient lighting uses less energy to produce the same amount of light as older, conventional bulbs and lamps. The most common lighting retrofit in commercial applications is to replace conventional fluorescent T-12 tubes and magnetic ballasts with narrower, more energy efficient, T-8 fluorescent tubes and electronic ballasts. (The numbers 12 and 8 after the T refer to the lamp's diameter.) The electronic ballasts operate at a higher frequency and eliminate the noise and flicker associated with magnetic ballasts. While the ballasts need to be replaced when installing T-8 lamps, the locations of the lights and the fixtures can stay the same.

Another common lighting retrofit replaces conventional incandescent bulbs with compact fluorescent bulbs (CFLs). CFLs offer the same bright, warm light as incandescent bulbs, but use 75% less energy. CFLs also last about 4 to 5 years, which is 6 to 10 times longer than incandescent bulbs.

### Case Study: Boulder Chamber of Commerce

The Boulder Chamber of Commerce replaced all of their old fluorescents with energy efficient T-8 fluorescents. Over the next 5 years, they will save \$16,900 in energy and maintenance costs, giving them a payback of 1.6 years. Through the City's rebate program, they saved over \$2000 on their initial investment.



### The Rebate Program

The PACE Program has received funding from Xcel Energy and partnered with Commercial Lighting & Electric to install energy-efficient lighting in Boulder County commercial buildings. Rebates shorten the payback period of most projects to under two years. Project cost includes a 5-year warranty on ballasts and a 2-year warranty on lamps, as well as labor, materials, and disposal and recycling of old lamps and ballasts.

To find out how you can receive a free lighting estimate, contact:

- Carolyn Brouillard at 303-441-4191 or [brouillardc@ci.boulder.co.us](mailto:brouillardc@ci.boulder.co.us)  
- Or Sarah Van Pelt at 303-441-1914 or [vanpelts@ci.boulder.co.us](mailto:vanpelts@ci.boulder.co.us)

PACE is a partnership of the cities of Boulder and Longmont, Boulder County, and the Boulder Chamber of Commerce.

### Benefits of Energy Efficient Lighting

- Uses less energy to produce same amount of light
- Helps protect you from rising energy costs
- The thinner T-8 lamps block less of the light reflecting off the back of the fixture, improving light output
- Improved color rendering
- Reduced maintenance
- Can potentially reduce A/C cooling costs by reducing the amount of heat released by lamps
- The flicker and hum associated with magnetic ballasts is absent
- Higher quality lighting makes more comfortable and productive workspaces